Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the matter of	)	
Amendment of Part 90 of the	)	
Commission's Rules to Adopt	)	PR Docket No. 93-61
Regulations for Automatic Vehicle	)	RM 8013
Monitoring Systems	)	

REPLY COMMENTS

OF

SOUTHERN CALIFORNIA EDISON COMPANY

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SUMMARY

Southern California Edison Company ("SCE"), one of the largest electric utility companies in the nation, serves approximately nine million people in a 50,000 square mile area. Because of severe frequency congestion in SCE's service areas, SCE, with the encouragement of the Public Utilities Commission of the State of California, has invested about $30 million of ratepayer's money in research and development of a Part 15 communications network, operating in the 902-928 MHz frequency band, to automate distribution and utility meter reading functions. SCE's NetComm system is estimated to produce a savings of up to $40 million. SCE filed comments in this proceeding to call the Commission's attention to the important function these facilities serve, as well as to point out the substantial investment in, and use of, Part 15 devices. Because SCE was extremely concerned that adoption of the Commission's proposals in this proceeding could potentially cause severe problems to its system, SCE urged the Commission not to adopt proposals set forth in this proceeding.

These Reply Comments reiterate SCE's concerns with the Commission's proposal and demonstrate that its concerns are shared by a majority of the commenters in this proceeding. The overwhelming number of commenters do not favor the creation of a Location Monitoring Service ("LMS") as proposed by the Commission. The LMS, as proposed, with its antiquated and spectrum inefficient operations and its de facto exclusive licensing, amounts to a

spectrum grab of unprecedented proportions by the proponents of the

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additional 3,000 packet radios will be added to the network by the end of 1993.

2. SCE finds nothing in the comments filed in this proceeding which would cause it to alter the position articulated in its Comments that the Commission should seriously consider abandoning the proposal to significantly expand the Automatic Vehicle Monitoring ("AVM") Service to create a new service, with additional spectrum, called Location Monitoring Service ("LMS"), in the 902-928 MHz band. SCE submits that the status quo should be maintained. Alternatively, if the Commission must go forward with its proposal, despite a lack of support in the record, SCE believes that LMS should be authorized only pursuant to equipment standards and operating parameters which would permit others, especially Part 15 devices, to operate simultaneously with LMS systems.[1/]

3. Support for the Commission's proposals in the Notice is minimal. The strongest support comes, not surprisingly, from only two entities--North American Teletrac and Location Technologies, Inc. ("Teletrac") and MobileVision.[2/] And it is no wonder that Teletrac and MobileVision are so enamored of the Notices' proposal. Teletrac and MobileVision are currently licensed at well over a

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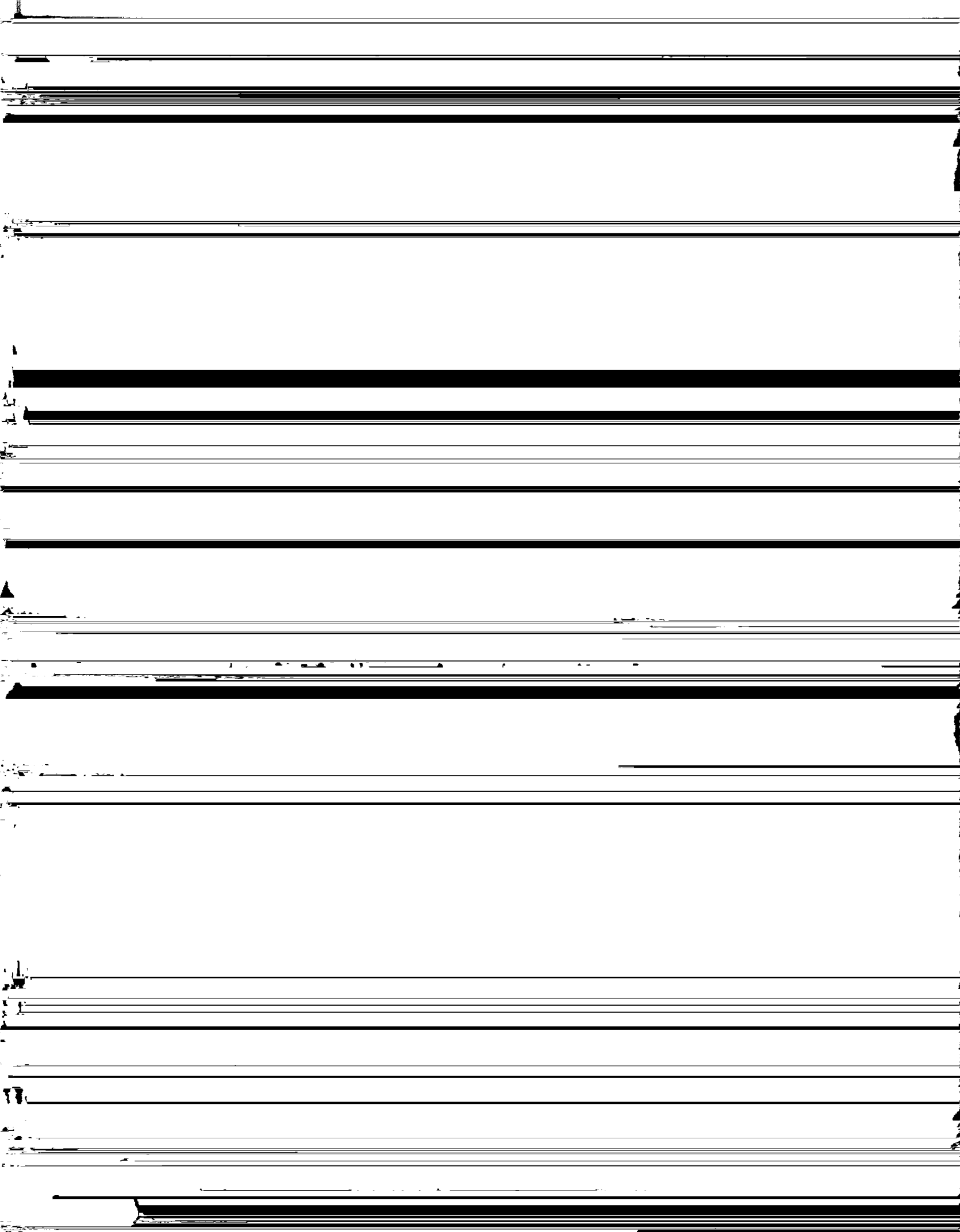
1/ See Comments of SCE, p. 1.

2/ The United States Department of Justice Drug Enforcement



any Teletrac-type system that is also operational in the same area may experience intolerable interference from the Part 15 devices. SCE does not understand how such a scenario could possibly be in the public interest.

6. Alternatively, forcing Part 15 devices to migrate to the subbands or center band (902-904, 912-918, and 926-928 MHz), which would be allocated to narrowband LMS services under the proposed rules, would also create an intolerable situation. These allocations are not sufficient to accommodate the deployment of all narrowband LMS and Part 15 devices.[6/] In addition, techniques designed to share spectrum could not be employed effectively in such a restrictive environment.[7/] Many of these users could be forced out of business, many consumers could loose benefits they

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[5/] (...continued)
an unreasonable level of electromagnetic interference to both unlicensed Part 15 and licensed AVM systems."); Comments of Alarm Industry Communications Committee at p. 7 ("the widespread proliferation of Teletrac operations could virtually shut down alarm industry use of wireless alarm links.")

[6/] Comments of ITRON at pp. 4-5 ("high-powered, narrowband LMS systems. . . cannot share frequencies with low-power Part 15 devices"); Comments of Norand at p. 10 ("The migration and concentration of narrowband LMS . . . would have a severe impact on the operations of Part 15 devices authorized to operate in those bands."); Comments of Texas Instruments and MFS at pp. 14-15 ("This scheme . . . will also create serious problems in the future as the middle of the band quickly becomes congested by middle mediumband systems and non-AVI services.")

[7/] Comments of Amtech at p. 11 ("should RF interference be caused to another user operating in the 912-918 MHz band, moving the ATCAS (advanced toll collection and accounting system) operation to another channel would not ba viable option to resolve interference.")

currently enjoy, and certainly the public interest will not be served.

II. THE RECORD DOES NOT JUSTIFY CREATION OF LMS.

7. The record in this proceeding amply demonstrates that the Commission has made a number of policy decisions to encourage sharing of the 902-928 MHz band.[8/] It is axiomatic that the Commission, having made such policy decisions, cannot change those decisions in order to create an LMS which cannot share the 902-928 MHz band before compiling a record which justifies changing those decisions.[9/] The record in this proceeding cannot be reasonably read as providing the Commission with either the justification necessary to: (i) change those decisions; or, (ii) disrupt (if not [illegible]) the entire Part 15 industry.[10/]

8. The fact of the paucity of the record in this proceeding regarding Part 15 and amateur issues is indisputable. Teletrac and MobileVision have virtually ignored Part 15 and amateur operations in their comments, acting as though Part 15 and amateur operations do not exist in the 902-928 MHz band.

9. Teletrac's Comments devote only a few sentences to Part 15 issues and virtually no sentences to amateur issues. Teletrac's assertion that it can coexist with Part 15 operations is not true[11/] and is at odds with: (i) Teletrac's Petition at pp. 24-32 (which describes the fragility of its technology and its technology's inability to share this spectrum); and, (ii) MobileVision's Comments, which want Part 15 devices restricted to frequencies reserved for narrowband LMS systems in order to avoid interference with wideband LMS systems.

10. Footnote 13 of Teletrac's Comments states that its system was designed "with Part 15 equipment in mind, and we believe that our system will continue to operate reliably [notwithstanding the presence of Part 15 devices in this band]." The footnote goes on to point out that the increase in "noise" caused by Part 15 devices, when compared to the increase caused by narrowband systems, is quite small. Teletrac concludes that Part 15 devices are, therefore, not a problem to its system, but narrowband systems are. Teletrac is simply ignoring reality. There have already been events of interference to Teletrac's system from Part 15 devices

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11/ Comments of Teletrac, n. 13 and p. 52.

and Teletrac has only a skeletal system in place.[12/] What will happen when Teletrac constructs its entire system? Once Teletrac

12. Furthermore, Teletrac cites nothing to support its assertions that most Part 15 devices are consumer devices and most are used in places less likely to be near LMS receivers. Footnote 8 of SCE's Comments articulates a very plausible scenario in which Teletrac increases the number of receiver sites in its attempt to reduce interference to its LMS system. Increasing the number of receiver sites will undoubtedly increase their proximity to Part 15 devices, contrary to Teletrac's assertion.[15/]

13. Teletrac's footnote 13 also states, again with no support, that "many Part 15 devices are used indoors, so that building walls reduce outdoor emissions levels." The NetComm packet radios that SCE is concerned about are not used indoors; neither are a whole host of other Part 15 devices. Therefore, no credence can be given to Teletrac's assertions that the Part 15 devices are mostly used indoors by consumers.

14. Teletrac's footnote 13 also makes the unsupported claim that most Part 15 devices are used at "ground-level" which, in Teletrac's mind, is supposed to minimize interference from such devices to LMS systems. Teletrac offers the Commission no clue as to how it comes by such knowledge nor does Teletrac tell the Commission exactly what it means by the term "ground-level."

[15/] The numerous Part 15 devices in the band will compound this problem, as articulated by Recoton. See Recoton Comments at 3-4 ("The only recourse for the Part 15 user would be to place as much distance between himself and the LMS user", which would be impossible "considering the huge installed base of Part 15 products.")

15. Footnote 13 also states that Teletrac believes that use of 902-928 MHz band by Part 15 users will not grow indefinitely because, at some point, Part 15 users will interfere with each other. This point, says Teletrac, will occur "at noise power levels that are lower than levels that would disable Teletrac receivers." Again, Teletrac offers no support for its belief. Besides, being unproven, Teletrac's statement is counter-intuitive, particularly given the outstanding engineering characteristics of the highly robust Part 15 equipment and systems currently populating the band, generally,[16/] and the highly robust NetComm packet radio which is the essential element of SCE's communications network, in particular. It must be noted that Part 15 902-928 MHz equipment is specifically designed to operate in a shared environment.

16. MobileVision's Comments are likewise, very sparse when it comes to enlightening the Commission about Part 15 and amateur issues. MobileVision's major contribution in this regard is to request the Commission to restrict all Part 15 operations to frequencies reserved for narrowband LMS systems.[17/] This is no solution. The power levels used by narrowband LMS operators are usually much higher than necessary. Accordingly, a concentration

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[16/] Comments of Ademco at p. 2 ("Existing sharing arrangements have permitted a multitude of users to coexist within the band without significant interference problems."); Comments of Alarm Industry Communications Committee ("Part 15 manufacturers have been able to design their systems to avoid significant interference to Part 15 devices.")

[17/] Comments of MobileVision, p. 45.

of these signals at the same place in the band will have a devastating impact on Part 15 operations located in that same part of the band.[18/]

17. The record compiled thus far in this proceeding shows a lack of demand for AVM/LMS. Teletrac has operations in only six markets, though it has held hundreds of authorizations since 1989.[19/] Moreover, Teletrac is using only 4 of the 8 MHz for which it sought and received authorization.[20/] Furthermore, assuming for the sake of argument that the record did establish that a need existed for location monitoring, the record certainly does not establish that such demand must be accommodated by the proposed LMS.

18. In sum, the only record the Commission has in this proceeding on Part 15/amateur issues is that a policy change (allowing LMS in the 902-928 MHz band) will make Part 15/amateur operations impossible or very difficult and should not be adopted.

19. Section 332 of the Communications Act,[21/] requires the Commission, when taking actions to manage the spectrum to be made available for use by the private land mobile service, to consider if its actions will promote the safety of life and property; will improve the efficiency of spectrum use based upon sound engineering principals, user operational requirements, and marketplace demands; will encourage competition and provide services to the largest feasible number of users; or increase interservice sharing opportunities between private land mobile services and other services.

20. SCE agrees with AT&T's Comments that Teletrac's system does "not meet the statutory standards for: improving spectrum efficiency; increasing sharing between different types of users; fostering competition; and serving the largest number of users. These systems use much more spectrum than is necessary for the

also establish that Teletrac's system requires exclusive licenses and does not favor the promotion of competition by means of non-exclusive licenses to LMS providers. SCE agrees with AT&T's Comments at page 5: "Spectral inefficiency and the absence of competition show that pulse-ranging systems do not meet the statutory requirement of increasing the number of possible users of the band."

21. In contrast, the current environment in the 902-928 MHz band fosters efficient use of spectrum by encouraging numerous users to operate in a competitive environment.[25/] Users in this band thrive on this flexible environment to advance state-of-the-art technology that is able to coexist and compete effectively to serve a growing market demand. Displacing the current users with the proposed allocation scheme will represent a sharp departure from the statutory goals that are currently being pursued in the band.

22. In sum, authorizing Teletrac-type LMS systems to operate in the 902-928 MHz band does not meet the statutory requirements of Section 332 of the Communications Act and, therefore, should not be granted permanent authorization. Since granting such permanent authorization is in contravention of the requirements of Section 332, it is questionable whether such authorization could withstand judicial scrutiny.

[25/] Comments of Metricom at para. 9 (the 902-928 MHz band "is inherently a shared band already occupied by a plethora of useful services with substantially more to come in the future.")

IV. THE PROPOSALS IN THE NOTICE REPRESENT A REVERSAL OF LONG-STANDING COMMISSION POLICY.

23. The Notice's proposals to render Part 15 devices ineffective in the 902-928 MHz band constitute a complete reversal of long-standing Commission policy upon which many have relied. Such action is an abandonment of the position the Commission took and told Part 15 manufacturers and users that the Commission intended to take with regard to Part 15 operations at 902-928 MHz. SCE never had any warning, nor could it have reasonably foreseen, that just a few years after encouraging Part 15 development in the 902-928 MHz band, the FCC would propose to greatly expand the scope of permissible activities within the band to accommodate the widespread deployment of a technology that can only function in an extremely quiet RF environment. This is not equitable.

24. The Commission should acknowledge the $30 million investment by SCE's ratepayers in SCE's Part 15 NetComm packet radio, as well as the large public interest to be served by assuring that SCE's Part 15 NetComm radios can continue to be used in the 902-928 MHz band. As pointed out in SCE's Comments, this public interest takes the form, among other things, of enormous energy savings and reductions in monthly electric utility bills.[26/] SCE has a right to expect that any change in the rules affecting the operation of Part 15 NetComm radios will be based on reasoned decision making. Making SCE's ratepayers' $30 million investment potentially unusable in order to provide a service of

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[26/] Comments of SCE at para. 24.

questionable utility for which there is questionable demand is not reasoned decision making.

25. SCE believes that it must be painfully obvious to the Commission that the Notice's proposals would cause extraordinary harm to those who use Part 15 devices, and those who benefit from them. These proposals, if adopted, could cause the loss of tens of thousands of jobs, severely injure the businesses of many Part 15 manufacturers, and cost Part 15 users billions of dollars in wasted investment in Part 15 devices.[27/] SCE's Comments noted that SCE's ratepayers would be unable to recover their stranded investment in the NetComm Part 15 system, which was implemented as a result of the California PUC's encouragement to invest in NetComm technology, research and development.[28/] Therefore, SCE encourages the Commission to be just as concerned about preserving past investment

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[27/] See, e.g. Comments of Sensormatic at p. 29 ("it would cause the loss of tens of thousands of jobs, damage the businesses of many Part 15 manufacturers, and cost their customers billions of dollars in wasted investment"); Comments of the Part 15 Coalition at p. 2 ("These [Part 15] manufacturers have invested over nearly 2 billion dollars"); Comments of Telxon at p. 3 ("In 1992 alone, users spent approximately 39 million dollars on wireless LANs and the market could approach 700 million by 1996"); Comments of Cobra Electronics at n. 1 ("It is estimated that in 1994 total industry

in the Part 15 industry as it apparently is about encouraging future investment in the LMS industry.[29/]

26. It is difficult for SCE to comprehend how the Commission could propose reversing its policies regarding Part 15 operations without conducting a comprehensive analysis of the major benefits to consumers provided by Part 15 devices. There is nothing in the Notice which would cause a record to be compiled that would produce such a comprehensive analysis. It is even more difficult for SCE to comprehend how the Commission could propose to reverse its historic policies regarding Part 15 devices in favor of a technology that is not unique and that is so inefficient.

27. There are other systems which do what Teletrac's system does; however, they do it better.[30/] For example, Teletrac's system cannot locate vehicles (or anything else) in rural areas because there are no receivers in rural areas.[31/] GPS does not have this problem. As noted by Southwestern Bell Mobile Systems,

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[29/] See Comments of the Part 15 Coalition at 16 ("Four major manufacturers of cordless phone have announced plans to produce 900 MHz cordless phones.")

[30/] See, e.g., Comments of AT&T at p. 3 (AT&T compares the Teletrac system to a GPS system in place in Dallas, Texas); Comments of SpectraLink at p. 4 (SpectraLink points out that Trimble Navigation of Sunnyvale, CA combines GPS with cellular or trunked radio transmitters to offer a viable location service); Comments of the Part 15 Coalition at 15 ("Several vendors described location and messaging systems based on various transmission media e.g. satellite networks, FM subcarrier networks, cellular networks, and SMR networks.")

[31/] Thomson Consumer Electronics at p. 4 ("Rural areas are unlikely to be covered by a pulse-ranging system since the cost of placing sufficient number of base stations would be prohibitive.")

Inc.: "Teletrac's apparent reluctance to invest further in its own technology (See Czerner Affidavit) reflects not current market conditions, but Teletrac's concern about buying a seemingly inefficient technology for operation in a shared spectrum

V. TELETRAC'S SYSTEM CANNOT EXIST IN A SHARED SPECTRUM ENVIRONMENT.

28. Since Teletrac's Comments confirm that Teletrac's system

[redacted]

33/

requirements, is on an unaccountable basis.[34/] Assuming the Commission elected not to clear the band but to remove selected Part 15 devices on an ad hoc basis, it would be very difficult, if not impossible, to identify the offending Part 15 device due to the intermittent use of these devices.

31. Not clearing the band will also lead to interference to Part 15 devices, which, in turn, will lead to outraged consumers and business users. The Commission can be expected to allocate a tremendous amount of its resources responding to Congressional inquiries and user complaints about this problem.[35/]

32. The problem of clearing the band of Part 15 devices is not created because Part 15 operators are claiming rights to use the spectrum they currently do not have.[36/] The problem exists because of prior Commission policies encouraging the development of Part 15 devices in the 902-928 MHz band. This is a practical, not

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[34/] Comments of SCE at para. 17.

[35/] Comments of Metricom at n. 8 ("The Commission must determine where it will find the human and fiscal resources necessary to deal with the huge public outcry that will emanate from angry consumers and businesses . . . because they cannot use their Part 15 devices"); Comments of Sensormatic at 19 ("The cost of such an enforcement action would certainly be astronomical and probably unsuccessful.")

[36/] See Reply Comments of Radian Corporation filed in ET Docket No. 93-59, RM-8092, Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum for Wind Profiler Radar Systems. Radian apparently believes that Part 15 operators, because they do not believe that the band can be cleared of Part 15 devices, are attempting to transform themselves from an unlicensed

a legal, problem that the Commission must solve if it is to permit LMS in the 902-928 MHz band in the manner proposed in the Notice.

VI. THE COMMISSION SHOULD ADOPT THE JOINT COMMITTEE PROPOSAL OFFERED BY SEVERAL COMMENTERS.

33. SCE favors the establishment of a Joint Committee as proposed by several commenters.[37] However, any Joint Committee must be premised on Part 15 having rights to operate at 902-928 MHz; otherwise, Teletrac has no incentive to negotiate a settlement or establish rules which will permit Part 15 operations in this band, and negotiations would, therefore, be a waste of time. Such a premise would, however, constitute a revision of the Commission's historic view of Part 15 devices; the adoption of any recommendation by such a Joint Committee would presumably give Part 15 operators rights which they currently do not have but, based on the record established herein, would certainly serve the public interest.

34. This issue must be squarely faced by the Commission before chartering a Joint Committee. There is no reason to initiate such deliberations if the relationship between AVM/LMS operators and Part 15 operators is to remain unchanged.

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[37] See, e.g., Comments of Part 15 Coalition at p. 12; Comments of SpectraLink at 5; Comments of Uniplex at 6; Comments of Sensormatic at pp. 24-25.

VII. CONCLUSION.

SCE requests the Commission to seriously consider abandoning the proposal in the Notice and opt, instead, to maintain the status quo. Tremendous public benefits can be realized by implementing SCE's communications network. Because the radio spectrum currently allocated for licensed types of systems is depleted in many parts of the country, including SCE's service area, SCE has no cost-effective choices but to use Part 15 devices. SCE's ratepayers have expended in excess of $30 million in research and development for Part 15 spread spectrum radios and the Commission should not denigrate their investment based on proposals which are not supported by the record, and are not in the public interest.

WHEREFORE, the premises considered, Southern California Edison Company respectfully requests the Commission to abandon its proposal in this proceeding or, in the alternative, to assure the continued, uninterrupted and reliable operation of SCE's Part 15 NetComm system.

Respectfully submitted,

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